

**Data Switching:** an element that provides data services (e.g., frame relay or ATM) switching functionality.

require minor development work.

The purchasing carrier's facilities would interface on a DS1 frame or patch panel to the appropriate switch ports. ILECs currently possess the technical capability to provide interconnections to these elements.

**Intelligent Network and Advanced Intelligent Network**

The ILEC switch port should be connectable to the purchasing carrier's IN and AIN, to allow the purchasing carrier's switch to use that IN and AIN. Current Bellcore standards exist for ILEC connection to this element.

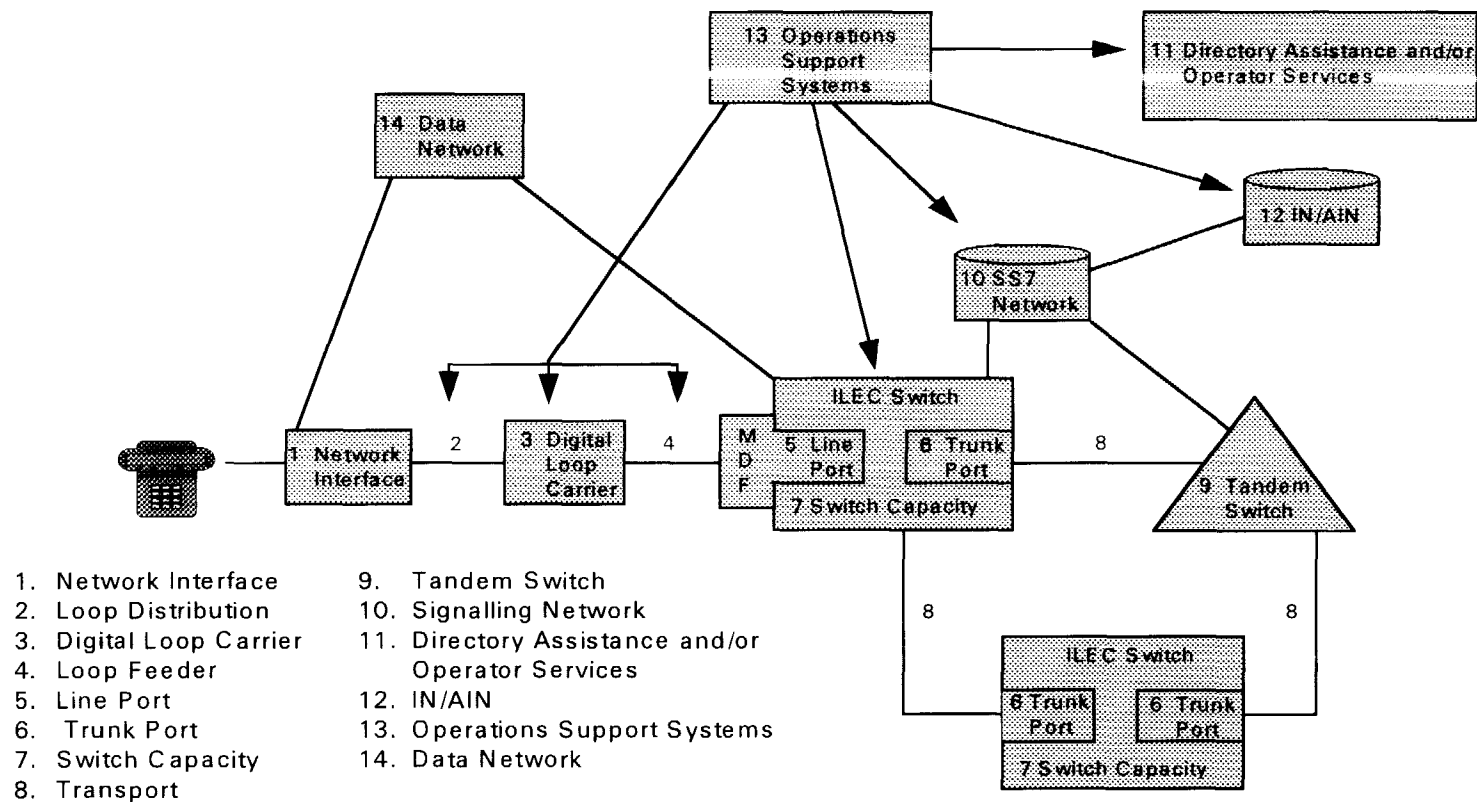
**Operator Services and Directory Assistance.**

OS and DA require the use of transport, switching, and other elements to provide routing to particular databases. All such routing can be performed and all the elements used have already been defined by the ILEC. (The same is true for 911.)

**Operations Support Systems:** the back office and business processes required for order processing, provisioning and installation, trouble resolution, maintenance, customer care, monitoring service quality, recording, and billing.

These are essential for access to functional network elements. ILECs have demonstrated the technical feasibility of such elements through so-called "electronic bonding" with IXC's and other ILECs.

## Diagram 1: Unbundled Network Elements Technically Feasible Today



**B. Unbundled Elements Must Be Available on a Nondiscriminatory Basis, and May Be Combined to Provide Telecommunications Services**

MCI agrees with the Notice's tentative conclusions for unbundled elements:

- [77] The Commission: (1) is obligated to identify network elements that ILECs should unbundle and make available to requesting carriers; (2) should identify a minimum set of elements that ILECs must unbundle for any requesting telecommunications carrier; and (3) to the extent necessary, should establish additional or different unbundling requirements in the future as services, technology, and the needs of competing carriers evolve.
- [78] States may require additional unbundling of LEC networks, and parties may negotiate additional elements.
- [86] ILECs are required to provide requesting carriers the ability to obtain a particular element's functionality for a fee and there must be a separate charge for each purchased element.
- [97] Further unbundling of the local loop should be required.
- [98] ILECs should provide unbundled local switching capability as a network element.
- [104-105] ILECs should be required to provide access to unbundled transport facilities as network elements.
- [107] Requiring the ILECs to unbundle their signaling systems and databases is consistent with the intent of the 1996 Act.
- [116] ILECs should be required to unbundle operator call completion services and other network elements included in the statutory definition of network elements, including subscriber numbers and information sufficient for billing and collection or used in the transmission, routing, or other provision of a telecommunications service.

In addition, MCI proposes the following:

- [79] The Commission should adopt a national rule requiring ILECs to fully implement the minimum requirements (prerequisites) for nondiscriminatory access to the unbundled elements (listed in Table 2) within six months of the conclusion of initial negotiations and arbitration, with explicit penalties for failure to implement.

- [98] The Commission should require ILECs to provide an unbundled local switching (ULS) element as defined and described herein
- [104] The Commission should require ILECs to make dark fiber available as a separate transport subelement
- [107] The Commission should require ILECs to provide telecommunications carriers nondiscriminatory access to all the databases listed in Table 3.
- [108] The Commission should require ILECs to provide immediate access to two interconnection points that are available today: (1) ILEC Service Switching Point (SSP) to non-LEC Service Control Point (SCP), and (2) non-LEC SSP trigger control at the LEC switch, and should refer implementation of the remaining interfaces specified in the IILC Issue #026 consensus document to an established technical forum, closely monitoring the activities of the forum to ensure that implementation of access to the remaining interface points is accomplished within six months of the end of an initial negotiation or arbitration process.

#### **1. National Rules Must Do More Than Identify Core Elements**

[79] The Commission's tentative conclusions provide an excellent framework for identifying the ILEC network elements to be unbundled, but by themselves would not meet the Commission's obligations under the Act because they are insufficient to ensure nondiscriminatory access to those elements in a manner that allows requesting carriers to combine them to provide telecommunications services (Section 251(c)(3)). The latter will require proper pricing,<sup>15/</sup> technical standards, means to combine the elements, and access to information and operations support systems needed for nondiscriminatory quality of service, order processing, provisioning and installation, trouble resolution, maintenance, customer care, monitoring of service quality, recording, and billing. The Commission should require strict time frames for accomplishing these

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<sup>15</sup> Pricing issues will be discussed in Section V, *infra*

tasks.

[79] For most network elements, technical standards already are well developed, but have not been applied specifically to unbundled elements. Also, means exist for combining elements, but those means (such as "loop transport" to take traffic from unbundled local loops at the ILEC's central office to the competing carrier's switch) often have not been made available to competing carriers. Information and operations support systems also exist, but have been constructed to serve the needs of an ILEC in a monopoly environment, not the needs of interconnecting carriers and an ILEC in a competitive one. These prerequisites for nondiscriminatory access remain in the control of the ILECs, who have no incentive to make the necessary modifications. It would be a great burden for competing carriers to have to negotiate for each of these prerequisites on a state-by-state basis, with no regulatory requirements to balance the unequal bargaining power of the carrier seeking interconnection and with a likely inconsistency of outcome across states that would raise entrants' costs. To lessen this burden, and to provide guidance to both the negotiating parties and the state commissions, the Commission should set national rules of engagement that address each of these prerequisites. MCI has identified these minimum requirements in Table 2 <sup>16</sup>

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<sup>16</sup> MCI discussed technical feasibility issues relating to unbundled elements in Section III.A of the comments.

TABLE 2  
MINIMUM REQUIREMENTS TO ENSURE NONDISCRIMINATORY ACCESS TO  
UNBUNDLED ELEMENTS, INTERCONNECTION, COLLOCATION, AND RESALE

The FCC should implement, as part of this proceeding, the following rules and requirements that ILECs must meet:

- o All unbundled network elements must be priced at TSLRIC
- o The ILEC must make all unbundled elements, interconnection, collocation, and wholesale services available to purchasing carriers immediately
- o The ILEC must meet all requirements to ensure nondiscriminatory access to the unbundled elements, interconnection, collocation, and wholesale services, as enunciated in this proceeding, within six months of the conclusion of the negotiations and arbitration process.
- o All unbundled elements can be purchased and used in combinations.
- o Where equipment must be placed in an ILEC facility to allow the purchasing carrier to use an element or to combine elements, the ILEC must allow such placement as long as the equipment meets industry standards.
- o The purchasing carrier must have parity with the ILEC in access to features, operations, interfaces, redundancies, and quality of network elements.
- o All facilities, equipment, features, functions, and capabilities in unbundled elements, interconnection arrangements, collocation arrangements, and wholesale services must conform to all applicable Bellcore and ANSI requirements specific to the type of service provided.

Ordering, Provisioning, and Installation

- o The ILEC must provide a real-time automated pre-service ordering system interface.
- o The ILEC must provide a real-time automated provisioning service order interface and confirmation.
- o The ILEC must provide a real-time automated service order confirmations/status.
- o The ILEC must provide provisioning support 7 days a week, 24 hours a day.
- o The ILEC must provide a real-time automated process for ordering and provisioning individual elements, combinations of elements, interconnection, collocation, and wholesale services.
- o The ILEC must provide all test and turn-up procedures in support of unbundled elements/combinations, interconnection, collocation, and wholesale services.
- o The ILEC must notify the purchasing carrier prior to disconnect of any unbundled elements/combinations, interconnection, collocation, and wholesale services.
- o All contacts that the ILEC has with the purchasing carrier's customers when performing tasks relating to unbundled element or resold services at the customer's premises should be identified with the purchasing carrier's brand.

**Billing**

- o The ILEC must provide the purchasing carrier local usage information in standard EMR format daily.
- o The ILEC must provide competitively-neutral inter-company billing processes.

**Customer Account Record Exchange (CARE) and Account Maintenance**

- o All customers must be able to use the existing 611 dialing protocol to access the repair center of their local service provider.
- o The ILEC must list CLEC customers in directory assistance free of charge, must provide unbranded operator/directory assistance services or pass the operator handled/directory assistance call to the CLEC, and must provide the information in the database to the CLEC.
- o The industry must implement a competitively-neutral IXC PIC process.
- o The industry must implement a competitively-neutral Local PIC process.
- o The ILEC must list CLEC customers in the white pages directory at no cost.

**Maintenance**

- o The ILEC must provide purchasing carriers read and write access to the ILEC maintenance and trouble report system, including, but not limited to, the following systems and/or functionality: trouble reporting/dispatch capability; repair status and confirmations; planned/unplanned outage reports initiated by the ILEC.

**Access Billing**

- o CLECs have the right to bill IXCs for access to their end users' local loops.
- o The ILEC must provide the CLEC, using the EMR standard, the usage information needed for the CLEC to perform access billing.

**Information**

- o The ILEC must provide the purchasing carrier all information needed for parity, including, but not limited to: identification, description, and engineering information on all elements, interconnection facilities, collocation facilities, and wholesale services; service address guide; network points of interconnection; list of telephone exchanges; switch locations; data needed to control fraud; engineering changes associated with the ILEC's network elements and deployment of new technologies; reports on install time frames, average length of outages, and percentage of call failures for own customers vs. CLEC customers; pricing and service information in the agreements ILECs make with each CLEC; rate and feature information in a published tariff.
- o The ILEC must provide the purchasing carrier negotiated performance metrics, with results reviewed quarterly or on an as needed basis.

[89] Although many implementation details are best left to the states and to industry fora that develop industry standards,<sup>17/</sup> experience to date shows that the Commission must set strict time frames on the ILECs for implementation and should maintain oversight to ensure that implementation meets the requirements. This is the way the typical loop unbundling implementation process has progressed in the states to date:

- o A State commission orders unbundling.
- o The ILEC files "compliance tariffs" but does not provide the operations support systems needed for interconnecting carriers to have the same access to the unbundled element as the ILEC has.
- o The interconnecting carriers complain about the compliance tariffs but one of those carriers, facing a business imperative to enter the market under any conditions, concurrently purchases an unbundled loop or perhaps a few.
- o Initially, ordering and provisioning is performed using a manual/paper process, in contrast to the electronic, real-time processing available to the ILEC itself.
- o When the ordering/provisioning process becomes totally unworkable (typically because the interconnecting carrier seeks to order more than a few loops and the ILEC cannot handle the order), the interconnecting carrier files a complaint with the state commission.
- o The State commission commences "collaborative meetings" in which the staff requests all parties to cooperate.
- o The ILEC uses every opportunity to turn the collaborative processes into resource and time "black holes" with no firm time frame for resolution of the issues.

The specific situation in New York State, referenced in paragraph 96 of the Notice, is instructive.

The New York Public Service Commission ordered New York Telephone (NYT) to unbundle its links (loops) in 1994. One interconnecting carrier has ordered thousands of links in Manhattan,

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<sup>17/</sup> The Commission must ensure that industry standards are nondiscriminatory and develop in a fair and open process. Currently, Bellcore Generic and Technical Requirements are de facto standards that are neither developed nor modified in an open manner following due process. Such Bellcore requirements can be used by the ILECs to place undue burdens on new entrants into the local market who meet ITU standards accepted by most of the world.



but has had to do so using a manual process with little coordination within NYT on "hot-cuts."<sup>18/</sup> Service Requests and Firm Order Commitments are FAXed between companies. NYT will only commit to perform a coordinated conversion (the coordination required between loop cutover and number portability) within a two hour window. This makes it very difficult for the new entrant to coordinate both internal and external resources. In a coordinated conversion, it is likely that the competing carrier's personnel need to be taking action on their side of the network, along with a CPE vendor doing work at the customer premises, at the same time that the NYT personnel are doing the work on their end. If NYT cannot tell the competing carrier more precisely than "within two hours" when the conversion is to take place, the competing carrier's personnel -- and the CPE vendor's personnel -- are left stranded while waiting for the NYT personnel. It's akin to requiring the electrician, drywall person, and plumber to all show up at the same time, and one says, "I'll get there sometime after lunch." Moreover, NYT currently quotes purchasing carriers a ten business day interval for provision of a loop, which is a far longer interval than it quotes its customers for provision of basic exchange service. It also is MCI's experience that unbundling issues referred to industry fora are never resolved in a timely fashion. Issues referred to the Information Industry Liaison Committee have lain dormant literally for years, and many long-pending unbundling issues from the Open Network Architecture and other proceedings remain

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<sup>18/</sup> Hot cuts" is a term used to describe a real-time transfer of a customer from one carrier to another. These are typically performed at night to lessen the likelihood that the cut will cause an interruption of service.

unresolved.<sup>19/</sup>

[80-82] Some of the national rules should allow state variation; others should not. For example, as shown in Table 2, there should be a number of national requirements concerning real-time access to back office processes (these usually take the form of the same "electronic bonding" access that the ILEC enjoys), but since each ILEC is likely to have its own back office processes, the specific implementation of this requirement may vary both from state to state and within states. Consistent with this view, MCI believes the Commission should adopt a national rule requiring ILECs to fully implement all the prerequisites for nondiscriminatory access to the unbundled elements within six months of the conclusion of negotiations and arbitration, with penalties for failure to implement that are sufficiently large to deter delay. The Louisiana Public Service Commission has adopted rules (Order No. U-27949-TT, 3/15/96, Section 1001(A), (C), and (D), and Section 1101(F)) with specific unbundling, nondiscrimination, and timing requirements that could provide a useful basis for Commission rules, though they must be supplemented by the requirements proposed in Table 2.

## **2. Network Elements Are Different from Retail Services**

[84, 90] The distinction in the Act between a network element and a telecommunications service is straightforward. The network consists of elements that can be connected in different

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<sup>19/</sup> See Guggina Affidavit, attached to Exhibit B to MCI Comments, Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services, CC Docket No. 95-20 (filed April 10, 1995); Guggina, Toubassi, Jordan, and Joerger Affidavits, attached to ex parte letter from Frank Krogh, MCI, to William Caton, Secretary, FCC, dated April 25, 1996, Computer III Further Remand Proceeding, CC Docket No. 95-20 (filed April 25, 1996).

combinations, by different providers, to provide a wide array of telecommunications services. The elements are defined in the Act to be the facilities and equipment in the network used in the provision of services, and the features, functions, and capabilities provided by means of those facilities and equipment. Efficient carriers do not make investment decisions for a network element (e.g., a switch) based on the demand for a single service; they make those decisions based on the demand for all services that use that element -- services provided by the ILECs (both end-user services and input services, such as switched access) and services provided by competing carriers who purchase the unbundled element from the ILEC in order to provide those services. Network elements are not service-specific. When a competing carrier purchases an unbundled element from the ILEC, it should be able to use that element as an input into any service requiring that element, but it should not be required to offer every ILEC service that uses that element. The unbundled elements should include all the functionalities and features embedded in them, so that they can be used in combinations to provide a full array of local services -- both services provided by the ILEC and innovative services.

[85] The different standards in the Act for pricing unbundled network elements and pricing resold retail services reflect the fundamental difference between the purchase of a network element and the purchase of a retail service. A carrier relying on the resale of a retail service is constrained to the ILEC's retail structure, which changes as the ILEC sees fit. With unbundled elements, a carrier is leasing the underlying facility, equipment, function, feature or capability, and has both the ability and the responsibility to design its own retail services. Moreover, service classifications often have been deliberately designed to facilitate price discrimination, and

occasionally subsidies as well -- and these distortions will be built into rates for the wholesale service, which will be priced on a "top down" basis. The price of an unbundled network element, on the other hand, must be set at economic cost both to allow other carriers to make efficient buy/build decisions and to reduce the ILEC's ability to engage in anticompetitive strategic pricing. Some elements can be discretely identified, costed, and priced, for example, an individual loop or transport trunk. Other elements have large units of capacity, such as switches, and the prices should be set at the underlying costs of providing that capacity. (See the discussion of paragraphs 98-100 on the unbundled local switching element below.)

### **3. Unbundled Network Elements Must Be Made Available**

[93] The unbundling of all four categories of elements identified in the Notice -- loops, switches, transport facilities, and signaling and databases -- is technically feasible, and necessary for MCI's ability to provide services it seeks to offer, and would not involve proprietary interfaces or technology. Unbundled loops already are tariffed in Michigan, Illinois, New York, Connecticut, and Maryland. As explained in Table 1, it also is technically feasible to unbundle the subelements of these four categories. The ILECs already possess the technical standards necessary for each of these elements and need only make them public so carriers may incorporate them into their network designs.

#### **a. Loop Plant Must Be Unbundled into Subelements**

[97] MCI agrees with the Commission that the local loop should be further unbundled into network interface device, loop distribution, digital loop carrier/analog cross connect, and loop feeder. None of these involve proprietary equipment. MCI cautions that any ILEC claims of

technical infeasibility to unbundle loop subelements, although false, must not be used to delay the availability of the unbundled local loop.

**b. An Unbundled Local Switching Element Must Be Made Available**

[99-101] The ULS element, equivalent to the virtual lease of switch capacity, consists of all the functionalities residing in a central office switch and/or remote switching systems needed to provide the fully array of local exchange services, including switched access service -- dialtone, screening, recognition of service request, recognition of call-specific information, digit analysis, routing, testing, recordings, signal generation, call completion or handoff, SSP functionality and tables, PIC tables, trunk tables, class of service tables, data ports for remote access to switching functions, CLASS tables, and VLN tables. In purchasing the ULS element at an end office, a carrier commits to the purchase of a minimum block of line ports, a minimum level of trunk port capacity, and a minimum level of busy hour switch capacity for a minimum period of one year, thus sharing the investment risk with the ILEC.

[99-102] Switching costs are a function of line connections, trunk connections, and busy hour demand on the switch matrix and processor, and therefore the rate for the ULS element should have an element relating to each, set to recover the associated TSLRIC costs. Line-connections should be recovered through a per-line charge on the contracted capacity, with an additional per-line charge assessed if the purchaser exceeds its contracted level. Trunk-connection costs should be recovered through a minute-of-use charge since in a ULS environment each trunk port is effectively a common resource originating/terminating traffic from/to each ULS-based provider (including the ILEC, itself). Busy hour costs, caused by demands on the

switch matrix and processor, should initially be recovered through a combination of usage and line charges reflecting the relative use of the matrix and processor for line-to-line connections (line charges) and line-to-trunk connections (usage charges).<sup>20/</sup> In the future, it may become appropriate to adopt a rate structure that recovers busy hour costs through a busy hour demand charge, probably applied to a contracted level of busy hour demand measured in busy hour call attempts. It is impractical to do that now, however, because new carriers do not have information on which to base projections of busy hour usage, and in the absence of ILEC back office processes cannot even project when they can begin to offer service to new customers.

[99-102] Since the ILECs do not incur the cost of vertical features on a usage basis, optional functionality to support CLASS/custom calling features should be included with the contracted capacity. Functionality to construct Centrex-type offerings should be available at cost-based rates. If the ILEC can demonstrate measurable incremental cost associated with these features, then a charge set at TSLRIC can be applied. If not, then Centrex functionality should be included as non-chargeable options, like vertical features. Switching "ports", as defined in New York, do not provide competing carriers unbundled access to all the functionalities in the end office switch, and do not allow competing carriers to provide the full array of local services (in particular, switched access service), and therefore do not represent an unbundled element.

[102] Under the ULS element, the ILEC is free to route the purchasing carrier's traffic

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There would be no usage charge for an intraoffice call since such a call only requires a line port to line port connection. There would only be a usage charge (no line charge) for an IXC purchasing a ULS element to originate or terminate calls to ILEC customers; if an IXC were terminating a call to a CLEC customer served through the ULS element, then the IXC would pay the CLEC the usage charge for terminating the call.

through the switch in whatever fashion the ILEC chooses, as long as the carrier receives all the capacity it has contracted for and the same grade of service as the ILEC itself.

**c. Unbundled Transport Subelements Must Be Made Available on an Unrestricted Basis**

[105, 106] As the Commission has tentatively concluded, it is technically feasible to unbundle direct-trunked and tandem-switched transport and special access facilities -- such unbundling already exists. The same sorts of facilities are used to transport traffic from ILEC central offices to IXC POPs, to competing carriers' switches, or to other ILEC central offices, and therefore unbundling these also is technically feasible. MCI agrees with the rate structure and unbundling of local transport suggested by the Commission, but as discussed in Section V, the rates for each of these should be set at TSLRIC, not at current levels.<sup>21/</sup> Dark fiber must be available as a separate element.

**d. Unbundled Signaling Systems and Databases Must Be Available to Telecommunications Carriers**

[107-116] As the Commission notes, the 1996 Act contemplates the unbundling of ILECs' signaling systems and databases, specifically including "databases" and "signaling systems" in the definition of network elements. The Act does not set any limits on the databases or signaling systems to which this requirement applies. There are two types of databases necessary to route, complete, and bill both simple and complex calls -- those that support call processing applications (e.g., line information database (LIDB) and advanced intelligent network (AIN)

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<sup>21/</sup> The RIC, which is not a cost-based charge, but rather is set to meet a rate-of-return revenue requirement, is not consistent with the pricing standard in the Act, and must be eliminated.

database) and those that support non-call processing applications (e.g., customer payment records). In addition, signaling is required to access call processing databases using transport links and messaging protocols that are separate from the transport and switching used to complete the actual call. All ILEC databases and signaling capabilities must be unbundled and made available to telecommunications carriers for discrete purchase on a nondiscriminatory basis. Table 3 provides a nonexhaustive list of the databases to which telecommunications carriers should have access on parity with the ILEC -- generally via electronic bonding. Of course, access to databases that contain CPNI must conform with the requirements of Section 222 of the Act, Privacy of Customer Information. Telecommunications carriers also should have access to signaling parameters, such as CIP (CIC within the SS7 call set-up signaling protocol) and Calling Party Name within the SS7 call set-up signaling protocol, as well as to CLASS features.

[107 ] The Commission should require access to unbundled databases to include the provisioning of the data in the same fashion as the ILECs frequently do with one another today. In California, GTE provides directory listings to Pacific Bell for a joint directory assistance database that Pacific Bell copies for GTE. Carriers should be able to participate in the same type of arrangement -- but Pacific Bell has refused to permit this. Also, the information should be provided to carriers in the same format as it is provided to ILECs, namely by tape or other electronic means.



TABLE 3

All telecommunications carriers must have nondiscriminatory access via electronic bonding to the following minimum list of databases:

- |                                   |  |
|-----------------------------------|--|
| o LNP Database                    | o Installation/Order Processing Databases  |
| o LIDB                            | o Switch Network ID Database (with complete list of feature/functions by switch, NPA/NXXs, bus/res, line counts, rate centers, etc.) |
| o Directory Assistance            | o Local Calling Area Database  |
| o Toll Free Databases             | o CMDS System  |
| o Centrex Business Group Database | o Inventory Database   |
| o Listing Services Database       | o Number Assignment Database   |
| o Intercept Database              | o Usage Data   |
| o Operator Reference Database     | o Customer Payment Records   |
| o CRIS                            | o Emergency Services Database  |
| o Service Location Database       |  |
| o ALI Database                    |  |
| o MSAG                            |  |
| o OSS Databases                   |  |
| o TMN Type Database               |  |
| o Repair/Dispatch Database        |  |

[108] In considering the unbundling of signaling systems and databases it is essential to distinguish between the unbundling of and access to the physical components of these systems and the unbundling of and access to the logical elements of the ILECs' networks. Unlike interconnection for traditional telecommunications services, where the focus is on the points of physical interconnection and the availability of unbundled facilities, the focus in unbundling of databases, signaling systems, and other intelligent network functions is on access to the logical elements that permit control of various network functions.

[108] At the physical level, interconnection of signaling systems today is largely accomplished at the level of the Signal Transfer Point (STP) for real-time control of call set-up and certain vertical features, such as 800 service and caller ID. Other functions, such as

downloading of information from a Service Management System (SMS) to a carrier's Service Control Point (SCP) are accomplished via a direct connection to the SMS. An important reason for unbundling the physical elements of the intelligent network is to prevent manipulation by the ILECs of the pricing of interconnection to the disadvantage of interconnecting carriers.

[109] MCI believes that specifying particular services to which an unbundled access requirement would apply, as in the Colorado requirement, or specifying particular physical network components to which unbundled access must be granted, as in the Hawaii approach, will fail to accommodate the rapidly developing features of the intelligent network. The approach established in the Louisiana rules -- that ILECs must provide unbundled access to functions used in providing services to its own customers -- is the preferable approach. As a general principle, competing carriers should be permitted to stand in the same relationship to intelligent network components as the ILEC does when it offers intelligent network services to its customers. The variations cited in the approaches adopted by states do not reflect differing circumstances -- the signaling protocols and network interfaces involved in intelligent network functions are largely standardized in the local exchange industry -- and a uniform standard requiring access to signaling systems and databases by ILECs and competitive carriers alike is appropriate.

[110] The provision of advanced call processing services relies upon discrete building blocks contained in Bellcore's specifications of the Advanced Intelligent Network. The identification of these building blocks and appropriate interface points has been the task of the Information Industry Liaison Committee ("IILC") Issue #026 Task Force on Long-Term Unbundling. The report of that group, adopted in April, 1995, contains a description of logical

intelligent network elements, and can serve as a useful framework for identifying components that should be made available on an unbundled basis. This report also will be useful in implementing Section 259 of the Act, Infrastructure Sharing.

[110] Many of the interfaces outlined in the IILC document specifically permit the interconnection of competitive carriers' call processing databases with intelligent network elements of the ILECs. In particular, two interconnection points are available today: (1) LEC Service Switching Point (SSP) to non-LEC Service Control Point (SCP); and, (2) Non-LEC SSP trigger control at the LEC switch. The Commission should order implementation of access to these two interconnection points immediately, and should refer implementation of the remaining interfaces specified in the IILC Issue #026 consensus document to an established technical forum, closely monitoring the activities of the forum to ensure that implementation of access to the remaining interface points is accomplished within six months of the end of an initial negotiation or arbitration process. Appropriate mediation functions needed for the remaining interfaces should be determined by an industry study effort, and should be applied only when such mediation is substantiated. Also, any mediation put in place should apply equally to competitive carriers and to the ILECs' own use of intelligent network elements.

[113] MCI has noted several issues with the joint LEC IN test proposal in its ex parte comments on Docket 91-346. These issues are summarized below:

- The goals and objectives of the proposal are vague and ambiguous.
- The process proposed for performing additional studies could delay or even prevent the offering of IN capabilities while giving the appearance that progress is being made.
- There is too much emphasis on revisiting aspects of unbundling that the IILC has already

reviewed in great detail, spending nearly four years to determine the needs of the enhanced service provider industry for network unbundling.

- Most competitive carriers will not participate in such a one-sided test of technology because their participation may be mistaken for concurrence.

The provision of unbundled AN capabilities should be based on the network evolution plans depicted in IILC Issue #026. The Commission must ensure that the ILECs do not lure the industry into another activity that serves only to forestall the implementation of IILC Issue #026. The Commission must designate an industry forum to oversee the development of requirements, implementation, and testing. The Commission should closely monitor such activity to accomplish its statutory responsibilities and to prevent unnecessary delays.

[115, 116] MCI believes that the Louisiana requirement prohibiting ILECs from accessing the CPNI of an interconnecting carrier is necessary and appropriate, and should be implemented as a national requirement. MCI also agrees that billing information, subscriber numbers, and operator call completion services should be required under national rules to be made available as unbundled elements. The Commission must interpret the phrase "information sufficient for billing and collection or used in the transmission, routing, or other provision of a telecommunications service" to require the provision of unbundled access to subscriber number information sufficient for the provision of directory assistance and call completion service by interconnecting carriers, using the interconnecting carriers' own operators.

[116] The Commission should find that the requirement to make available nondiscriminatory access to unbundled databases includes both directory assistance and directory listings. As with operator service calls, 15 to 25 percent of the local directory assistance calls

(more than 1 billion calls) are processed for call completion as part of the directory assistance call. In order for carriers to be able to perform call completion in connection with directory assistance, they must have the underlying data in their own directory assistance databases. Carriers should be able to purchase the unbundled directory platform, the unbundled directory database and subdatabases, or the unbundled directory data. As explained above, sharing directory assistance information is not a new concept; it has long been done by ILECs. A 1989 California ruling specifically addressed Pacific Bell and GTE-California sharing directory assistance data to create a database that was then provided to both. (Re GTE California Incorporated, 31 CPUC 2d, 370 (1989)).

**C. Nondiscriminatory Interconnection Is Needed for the Competitive Provision of Telecommunications Services**

MCI agrees with the tentative conclusion of the Notice that:

- [50] Uniform interconnection rules would facilitate entry by competitors.

MCI also believes:

- [63] The Commission should require ILECs to meet the minimum requirements for nondiscriminatory access to interconnection facilities and operations support systems listed in Table 2 within 6 months of the conclusion of initial negotiations and arbitration.

[60,63] As Sections 251(c)(2)(C) and 251(c)(2)(D) recognize, mere interconnection will not promote telecommunications competition if interconnecting carriers are disadvantaged by the terms, conditions, and arrangements for interconnection and the quality of service available to them. Competitively-neutral interconnection requires proper pricing, technical standards, and access to information and operations support systems needed for nondiscriminatory quality of service, order processing, provisioning and installation, trouble resolution, maintenance, customer

care, monitoring of service quality, recording, and billing. It also requires strict time frames for accomplishing these tasks. These requirements must apply both to the physical interconnection of networks and the transport and termination of the traffic exchanged. The Commission should require ILECs to meet the minimum requirements listed in Table 2 within 6 months of the conclusion of initial negotiations and arbitration.

[61] To facilitate the role State commissions will play implementing their portion of the 1996 Act, the Commission should require ILECs to publish reports comparing ILEC intervals and levels of services for these interconnection facilities and functionalities to those offered to interconnecting carriers. These reports should include data on completion of installation orders, average length of outages, percentage of call failures, etc. Having this information readily available will permit states to rapidly determine what is specifically required by each ILEC receiving a request for interconnection in their jurisdiction.

[64, 65] MCI believes that the tentative conclusion of the Notice that the 1996 Act allows the Commission to order ILECs to make available a variety of types of interconnection -- physical, virtual, and meet point -- is insufficiently comprehensive. Although the Commission can order ILECs to make these types of interconnection available, it cannot limit the interconnection possibilities to these three. The Act explicitly requires ILECs to interconnect with telecommunications carriers at any technically feasible point. Collocation is but one form of interconnection. So is meet point collocation, if that requires the two carriers to agree to a single point. The choice of interconnection point must be entirely that of the requesting carrier.

[53] ILECs have the obligation under Section 251(c)(2) to provide interconnection to all

telecommunications carriers at cost. In the specific situation where interconnection occurs between two local service providers, such that each one is providing the same transport and termination functions for the other, Section 251(b)(5) of the Act instructs the carriers to utilize reciprocal compensation arrangements in recognition of the reciprocal functions performed. Moreover, since it is possible to avoid unnecessary billing expenses in a reciprocal situation that could not be readily avoided in a typical market situation, the Act explicitly allows the carriers to consider bill and keep arrangements that avoid billing expenses.

**D. ILECs Must Interconnect with Competing Local Carriers through the Use of Competitively-Neutral Reciprocal Compensation Arrangements**

MCI believes the Commission must adopt the following rules and requirements to implement a competitively-neutral reciprocal compensation arrangement:

- [61-63, 226] The Commission must declare that new entrants competing with the ILECs in local markets be treated for interconnection purposes as “co-carriers”.
- [61-63, 226] Each telecommunications carrier seeking to interconnect with an ILEC must designate, for each local calling area, at least one point of interconnection (POI) on the other carrier’s network. A carrier may designate more than one POI in a LCA, but cannot be required to do so.
- [63] Interconnection must result in the termination of the competing carrier's traffic at at least the same level of service quality as the ILEC provides for terminating its own traffic, without any additional charge to the competing carrier to obtain that level of service. It must be the responsibility of each carrier -- ILEC and competing carrier -- to install and bear the costs of efficient and sufficient facilities to carry traffic from the POI.
- [63] To ensure all carriers nondiscriminatory terminating capability, trunking should be available to any switching center designated by either carrier: including end offices, local tandems, access tandems, 911 routing switches, directory assistance/operator services switches, or any other feasible point in the network. There should be no limits on the directionality of the traffic carried on any particular trunk groups; all trunk groups should be designed as two-way for testing purposes, and carriers should have the option of establishing them as one way or two way for call completion. In addition, there should be

no restriction on the type of traffic that can be combined on a single trunk group unless signaling requirements dictate the need for separate trunk groups. In those instances where traffic must be segregated by trunk group, it should be the carrier receiving the traffic that determines the types of traffic that can be combined on a single trunk group (e.g., local, intraLATA toll, interLATA access). However, traffic should not be required to be separated across trunk groups without sound network engineering. The ILEC must provide interconnection to and from intelligent network, signaling, monitoring, surveillance, and fraud control points.

**1. The Commission Should Explicitly Recognize the Co-Carrier Status of Local Competitors.**

[61-63] The Commission should adopt the principle that interconnecting local carriers are in a "co-carrier" relationship with the ILEC -- not a customer/supplier relationship. In the absence of this co-carrier requirement, ILECs would have no incentive to conform to Reciprocal Compensation arrangements, despite being mutually dependent upon competing carriers for the termination of calls to each other's networks. ILECs would have no incentive to provide interconnecting carriers the same level of service they provide themselves. While co-carrier status imposes responsibilities on the terminating carrier, it does so without discriminating between the ILEC and the new entrant. Over time, each carrier imposes costs upon and receives benefits from the other. This is essentially the approach taken by the Washington Utilities and Transportation Commission in its recent interconnection order in Docket UT-941464.<sup>22/</sup>

**2. Interconnection Terms, Conditions, and Arrangements Should Not Force New Entrants to Mirror the ILECs' Network Architecture and Design.**

[61-63] It is MCI's experience that ILECs use their monopoly power to attempt to

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<sup>22/</sup> The Washington UTC adopted bill and keep on an interim basis, stating that ILECs and competing carriers can expect their customers to make calls that will terminate on the other party's network. The Commission said that it saw "little potential for harm and much potential gain" for competition.



impose disadvantageous interconnection arrangements on competing carriers, who in the absence of regulatory guidelines are forced to negotiate from a position of weakness. Moreover, a potential entrant who attempts to stick to a negotiating position may be undermined by another entrant whose need for immediate cash flow or other business plans forces it to accept the ILEC's terms. Thus, national rules are needed that explicitly recognize the need for neutrality across different business and technology strategies for the interconnection of very different, but compatible, networks. The incentives of rate of return regulation moved ILECs to design their networks in a costly, inefficient manner. These financial incentives were transformed into engineering standards. In contrast, new entrants, having never been guaranteed a return on investment, must have efficient network designs. These new networks, taking advantage of low-cost optical fiber technology, can efficiently provide service using fiber rings and longer loops, but fewer switches than the ILECs. If the reciprocal compensation arrangements are based on the ILEC technology and architecture, efficient new entrants can be excluded from the market. To safeguard against this, MCI proposes that the Commission implement the following rules:

- When a competing local carrier and an ILEC seek to interconnect, each carrier must designate, for each local calling area (LCA), at least one point of interconnection (POI) on the other carrier's network for the purpose of exchanging traffic. (See POI1 in Diagram 2.) The carrier's designated POI is the location where its responsibility for carrying traffic originating on its network ends, and where the other carrier's responsibility for terminating that traffic commences <sup>23/</sup>. A carrier may designate more than one POI in a LCA, but

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<sup>23/</sup> If a carrier seeking interconnection has no facilities in a local calling area, then it must designate a "virtual" point of interconnection somewhere on the ILEC's network in that LCA, and provide or purchase from the ILEC trunks to transport traffic from its switch to that virtual POI, since it has the responsibility to get traffic to at least one point on the ILEC's network in each LCA. (See POI2 in Diagram 2.)